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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

DUDA, ADAM K

ART UNIT

PAPER NUMBER

2616

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DELIVERY MODE

06/13/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/796,223	Applicant(s) UCHIYAMA ET AL.	
	Examiner ADAM DUDA	Art Unit 2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 30 April 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) 3, 7, and 10 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-2, 4-6, 8-9, and 11-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>3/19/2008</u> . | 6) <input type="checkbox"/> Other: _____ |

Response to Arguments

1. Applicant's arguments with respect to claims 1-12 have been considered but are moot in view of the new ground(s) of rejection.

Information Disclosure Statement

1. The information disclosure statement filed 3/19/2008 fails to comply with 37 CFR 1.99(b) because the submission does not contain an English language translation of all the necessary and pertinent parts of the non-English language patent or publications listed below:

- Fujitsu LT, 2004-4251JP
- Nippon Electronic CO. 2000-125277
- Hitachi LTD, 2000-134208

It has been placed in the application file, but the information referred to therein has not been considered.

As a result the argued features read upon the references as follows:

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claim 1, 2, 6, and 9 rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter

which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The limitation **"Layer-2 switch sandwiched between two Layer-3 switches"** is not disclosed by the specification filed on 3/09/2004. Furthermore, the term **"sandwiched"** is never used throughout the specification.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-12 rejected under 35 U.S.C. 103(a) as being unpatentable over **Matsunaga et al. (US 6,532,233 B1)** in view of **RFC 3376**.

Matsunaga discloses:

Regarding claim 1 a communication method in a multicast communication network (i.e. multicast communication network containing a multicast communication apparatus), including at least one Layer-2 switch sandwiched between two Layer-3 switches (see Matsunaga; col. 8 lines 43-50; "layer-3" and "layer-2" stations. The stations, based on figure 7, show that they sandwich the stations which are "layer-2" and "layer-3" stations), for

distributing a multicast packet from a multicast transmitting terminal (source, i.e. server terminal) through at least the Layer-2 switch (i.e. network device, station) to a plurality of multicast receiving terminals (receivers, i.e. client terminals, terminals; see Matsunaga et al.; Abstract; Figure 1; teaches a communication through a multicast communication apparatus, a layer 2 network device, between a multicast server terminal and multicast client terminals), comprising forming a receiving terminal (receiver; i.e. client terminal, terminal) discrimination (i.e. filtration) mechanism for discriminating (i.e. filtering) multicast receiving terminals (receivers; i.e. client terminals, terminals) for receiving distribution of said (i.e. downstream) multicast packets (see Matsunaga et al; col. 1 lines 5-10; teaches the filtering of downstream multicast packets to terminals) by using a discrimination packet (i.e. IGMP Membership Report Message Packet), to be transmitted from said multicast receiving terminal to said multicast transmitting terminal, for teaching said Layer-2 switch (i.e. network device, station) of the existence of the multicast receiving (i.e. requesting) terminal (i.e. client terminal, terminal etc) requesting distribution of said multicast packets under the Layer-2 switch (i.e. network device, station; see Matsunaga et al.; col. 1 lines 42-50; teach of an IGMP Membership Report Message Packet that teaches a layer 2 station of a multicast requesting terminal), the discrimination packet (i.e. IGMP Membership Report Message Packet) includes an IP header and MAC header (i.e. is encapsulated; see Matsunaga et al.; col. 8 lines 3-12; col. 8 lines 21-

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28; teaches how the information in the table, MAC address and IP address information, is used to forward an IGMP Membership Report Message which contains encapsulated information) and; and distributing multicast packets selectively (i.e. distributing multicast packets to a group address) by said receiving terminal (receiver; i.e. client terminal, terminal) discrimination (i.e. filtration) mechanism only to multicast receiving terminals (receivers; i.e. client terminals, terminals) requesting distribution of said multicast packets (i.e. downstream packets) when there are multicast receiving terminals (receivers; i.e. client terminals, terminals) relating to such requests under said Layer-2 switches (i.e. network devices, stations; see Matsunaga et al; col. 8 lines 28-42; teaches of distribution of multicast packets through filtering, destined to the group address of client terminals).

Matsunaga does not specifically disclose:

Regarding claim 1, wherein the IP source address and MAC source address are an IP address and MAC address of a multicast group to which said multicast receiving terminal belongs

RFC 3376 more specifically discloses:

Regarding claim 1, wherein the IP source address and MAC source address are an IP address and MAC address (i.e. header information) of a multicast group to which said multicast receiving terminal (receiver; i.e. client terminal, terminal) belongs (see RFC 3376; page 13 "Membership Report Message Format"; page 14 "Group Record Format"; page 15 "Multicast

Address"; teaches of the IP address and MAC address of a multicast group being a header of the message)

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Matsunaga et al., as taught by RFC 3376, thereby following a standard.

Matsunaga discloses:

Regarding claim 2, a multicast receiving terminal (receiver, i.e. client terminal, terminal) for receiving distribution of multicast packets from a multicast transmitting terminal (source; i.e. server terminal) through at least one Layer-2 switch (i.e. network device, station, etc; see Matsunaga et al.; Figure 1; col. 5 lines 7-15; teaches of distribution of multicast packets destined to client terminal group addresses through center and subscriber stations which are layer 2 network devices), sandwiched between two Layer-3 switches (see Matsunaga; col. 8 lines 43-50; "layer-3" and "layer-2" stations. The stations, based on figure 7, show that they sandwich the stations which are "layer-2" and "layer-3" stations), provided with a discrimination packet (i.e. IGMP Membership Report Message Packet) transmitting function unit for generating a discrimination packet (i.e. IGMP Membership Report Message Packet) for teaching said Layer-2 switch (i.e. network device, station) of the existence of the multicast receiving (i.e. requesting) terminal (i.e. client terminal, terminal etc) requesting distribution of said multicast packets under

the Layer-2 switch and transmitting it to said multicast transmitting (i.e. **network device, station**) terminal (see Matsunaga et al.; col. 1 lines 42-50; teaches of an IGM Membership Report Message Packet that teaches a layer 2 station of a multicast requesting terminal), the discrimination packet (i.e. IGMP Membership Report Message Packet) includes an IP header and MAC header (i.e. **is encapsulated**; see Matsunaga et al.; col. 8 lines 3-12; col. 8 lines 21-28; teaches how the information in the table, MAC address and IP address information, is used to forward an IGMP Membership Report Message which contains encapsulated information) and wherein the IP source address and MAC source address (i.e. **header information**) are an IP address and MAC address of a multicast group to which said multicast receiving terminal (receiver; i.e. **client terminal, terminal**) belongs.

Regarding claim 4, Matsunaga et al. discloses a multicast receiving terminal (receiver; i.e. **client terminal, terminal**), transmitting said discrimination packet (i.e. **IGMP Membership Report Message Packet**) periodically (see Matsunaga et al.; col. 1 lines 43-59; teaches periodically transmitting membership query message signifying transmission of IGMP report message packet by terminal)

Regarding claim 5, a multicast receiving terminal (receiver; i.e. **client terminal, terminal**), transmitting said discrimination packet (i.e. **IGMP Membership Report Message Packet**) when sending an IGMP-JOIN packet (i.e. **joining a multicast group to receive multicast packet**; see Matsunaga et

al.; col. 6 lines 46-55; teaches the client terminal transmitting a IGMP Membership Report Message packet to join a multicast group and receive multicast packets).

Matsunaga does not specifically disclose:

Regarding claim 2, wherein the IP source address and MAC source address are an IP address and MAC address of a multicast group to which said multicast receiving terminal belongs.

Regarding claim 4, transmitting discrimination packet (i.e. IGMP Membership Report Message Packet) periodically by unicast.

RFC 3376 more specifically discloses:

Regarding claim 2, wherein the IP source address and MAC source address (i.e. header information) are an IP address and MAC address of a multicast group to which said multicast receiving terminal (receiver; i.e. client terminal, terminal) belongs (see RFC 3376; page 13 "Membership Report Message Format"; page 14 "Group Record Formal"; page 15 "Multicast Address"; teaches of the IP address and MAC address of a multicast group being a header of the message)

Regarding claim 4, transmitting discrimination packet (i.e. IGMP Membership Report Message Packet) periodically by unicast (see RFC 3376; page 18 "IP Destination Address for Report"; teaches IGMP reports sent through unicast)

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Matsunaga et al., as taught by RFC 3376, thereby following a standard.

Matsunaga discloses:

Regarding claim 6, a Layer-2 switch (i.e. network device, station), sandwiched between two Layer-3 switches (see Matsunaga; col. 8 lines 43-50; “layer-3” and “layer-2” stations. The stations, based on figure 7, show that they sandwich the stations which are “layer-2” and “layer-3” stations), for relaying (i.e. transferring) a multicast packet transmitted from a multicast transmitting terminal (source; i.e. server terminal, terminal) and distributing it to a multicast receiving terminal (receiver; i.e. client terminal; see Matsunaga et al.; Abstract; Figure 1; teaches a layer 2 station for transferring a multicast packet), provided with: a snooping (i.e. listening to receive packets) function unit for monitoring for a discrimination packet (i.e. IGMP Membership Report Message Packet) transmitted from said multicast receiving terminal (receiver; i.e. client terminal, terminal) to said multicast transmitting terminal so as to teach said Layer-2 switch (i.e. network device, station) that there is a multicast receiving terminal (receiver; i.e. client terminal, terminal) requesting distribution of said multicast packets existing under it-(see Matsunaga et al.; col. 6 lines 46-55; teaches of center and subscriber stations receiving the report message packet from client terminal; col. 1 lines 42-50; teaches of

an IGMP Membership Report Message Packet that teaches a layer 2 station of a multicast terminal) the Layer-2 switch, the discrimination packet includes an IP header and MAC header and; and a learning (i.e. transmitting Membership Query Message) function unit for learning the existence of said multicast receiving terminal based on said discrimination packet (i.e. IGMP Membership Report Message Packet) extracted by said snooping (i.e. listening to receive packets) function unit (see Matsunaga et al.; col. 1 lines 42-50; teaches the transmission of the Membership Query Message to all multicast terminals to query continuation of the distribution of the multicast packet and retrieve follow up IGMP Membership Report Message Packet).

Regarding claim 8, a Layer-2 switch (i.e. network device, station), wherein said learning (i.e. transmitting Membership Query Message) function unit includes a distribution table (i.e. transfer control table), said distribution table (transfer control table) learns (i.e. registers) said IP source address (i.e. layer 3 address) and MAC source address (i.e. layer 2 address), then multicast packets transmitted from said multicast transmitting terminal (source; i.e. server terminal) are distributed in accordance with said distribution table (i.e. transfer control table; see Matsunaga et al.; col. 3 lines 18-67; col. 4 lines 1-4; teaches transfer control table that registers layer 2 addresses and transfers multicast packets to a corresponding port when address of a destination of a multicast packet is registered).

Matsunaga does not specifically disclose

Regarding claim 6, wherein the IP source address and MAC source address are an IP address and MAC address of a multicast group to which said multicast receiving terminal belongs

RFC 3376 more specifically discloses

Regarding claim 6, wherein the IP source address and MAC source address (**i.e. header information**) are an IP address and MAC address of a multicast group to which said multicast receiving terminal (**receiver; i.e. client terminal, terminal**) belongs (see RFC 3376; page 13 "Membership Report Message Format"; page 14 "Group Record Format"; page 15 "Multicast Address"; teaches of the IP address and MAC address of a multicast group being a header of the message)

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Matsunaga et al., as taught by RFC 3376, thereby following a standard.

Matsunaga discloses:

Regarding claim 9, a Layer-3 switch (**i.e. network device, station**), sandwiching at least a Layer-2 switch with another Layer-3 switch, for further relaying multicast packets transmitted from a multicast transmitting terminal (**source; i.e. server terminal**) through the Layer-2 switch (**i.e. network device, station**) and distributing it to a multicast receiving terminal (**receiver; i.e. client**

terminal, terminal) and for transmitting a discrimination packet (i.e. IGMP Membership Report Message Packet; see Matsunaga et al; col. 5 lines 40-48; col. 6 lines 6-22; teaches of layer 3 switches that distributes, to a client terminal, multicast messages) teaching said Layer-2 switch (i.e. network device, station) that there is a multicast receiving terminal (receiver; i.e. client terminal, terminal) requesting distribution of said multicast packets existing under the Layer-2 switch (i.e. network device, station) to said (see Matsunaga et al; col. 1 lines 42-50; teaches of the report message packet that teaches a layer 2 station of a multicast requesting terminal) multicast transmitting terminal, provided with: a decision (i.e. processing) function unit for deciding if a received packet is a discrimination packet (i.e. IGMP Membership Report Message Packet) or a general packet (i.e. IP packet, other packet) other than a discrimination packet (i.e. IGMP Membership Report Message Packet; see Matsunaga et al; col. 5 lines 40-48; teaches of receiving packets to differentiate between IP and IGMP packets), the discrimination packet includes an IP header and MAC header and; and a header processing function unit for processing a-n-the MAC header (i.e. layer 2 header) of said received packet (see Matsunaga et al.; col. 5 lines 64-67; col. 6 lines 1-5; teaches of processing a layer 2 header) and performing different processing in accordance with results of decision (i.e. processing) of said decision (i.e. processing) function unit (see Matsunaga et al.; col. 6 lines 2-5; teaches of processing in accordance with processing function unit) .

Regarding claim 11, a Layer-3 switch (**i.e. network device, station**), wherein said header processing function unit does not process the source address of said MAC header when said decision function unit decides that said received packet is a discrimination packet (**i.e. IGMP Membership Report Message Packet**; see Matsunaga et al.; col. 5 lines 40-48 ; teaches that the MAC header isn't processed when a packet is an IGMP message) and performs general rewriting processing (**i.e. layer 2 bridging**) on said MAC header when it decides that said received packet is a general packet (see Matsunaga et al.; col. 7 lines 34-45; teaches rewriting processing on MAC header when said received packet is a general packet).

Regarding claim 12, a Layer-3 switch (**i.e. network device, station**), wherein said decision function unit decides if said received packet is a discrimination packet (**i.e. IGMP Membership Report Message Packet**) or a general packet (**i.e. IP packet, other packet**; see Matsunaga et al.; col. 5 lines 40-48; teach deciding whether the packet is an IGMP or other packet) in accordance with whether said IP header and MAC header of a received packet are a multicast type address or unicast type address (see Matsunaga et al.; col. 5 lines 52-67; col. 6 lines 1-5; teach decision based on IP address and MAC address that distinguishes multicast and unicast addresses).

Matsunaga does not specifically disclose:

Regarding claim 9, wherein the IP source address and MAC source address are an IP address and MAC address of a multicast group to which said multicast receiving terminal belongs

RFC 3376 more specifically discloses:

Regarding claim 9, wherein the IP source address and MAC source address are an IP address and MAC address (i.e. header information) of a multicast group to which said multicast receiving (receiver; i.e. client terminal, terminal) terminal belongs (see RFC 3376; page 13 "Membership Report Message Format"; page 14 "Group Record Format"; page 15 "Multicast Address"; teaches of the IP address and MAC address of a multicast group being a header of the message)

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Matsunaga et al., as taught by RFC 3376, thereby following a standard.

Conclusion

1. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ADAM K. DUDA whose telephone number is (571)270-5136. The examiner can normally be reached on 5/4/9.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kwang B. Yao can be reached on (571) 272-3182. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Adam K Duda/
Examiner, Art Unit 2616

6 June 2008

/Kwang B. Yao/

Supervisory Patent Examiner, Art Unit 2616